

**THE ARMY OF THE NINETIES:
HOW MUCH WILL IT COST?**

The Congress of the United States
Congressional Budget Office

NOTES

All years in this report are fiscal years, unless otherwise indicated.

Unless otherwise noted, all dollar amounts in this paper are in fiscal year 1987 dollars.

Unless otherwise specified, "reserves" include both the Army Reserve and the Army National Guard.

PREFACE

The current Administration has made a concerted effort to modernize and improve the Army, investing \$415 billion (in fiscal year 1987 dollars) from 1980 through 1986 in new equipment, better pay and benefits for its soldiers, repairs and maintenance of its facilities, and stockpiles of war reserves. The Army still has, however, areas that it feels could be further improved. This analysis, requested by the Subcommittee on Procurement and Military Nuclear Systems of the House Committee on Armed Services, projects future Army budgets that would be required to meet the goals that the Army has established for itself for the period from 1987 through 1991. It also examines the effects that lower rates of budget growth might have on the Army's plans and future force structure. In keeping with CBO's mandate to provide objective and nonpartisan analysis, this study makes no recommendations.

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SUMMARY

In a statement to the Congress in the spring of 1980, then Army Chief of Staff General E. C. (Shy) Meyer called for greatly increased budgets to rectify the "hollow Army"--one that needed both modern equipment and additional operating personnel. From 1980 through 1985, the Army enjoyed annual real budget increases averaging nearly 10 percent and was able to improve the quality and capability of its troops and equipment. Nevertheless, the Army has not yet attained all its goals, including further enhancements of its readiness and sustainability, modernization of its equipment, and increases in the size of its reserves. This study estimates that attaining these goals by 1991 would require average annual real increases in the Army's budget of about 6 percent. (In some cases these goals, and hence their costs, may differ from those in the Army's latest budget proposal.)

Serious questions arise regarding the likelihood of continued budget growth for the Army. For the past two years, budget constraints have led the Congress to cut the Defense Department's--and the Army's--budgets in real terms, and large increases may not be possible in the near future. Thus, this study assesses several alternatives that would be compatible with more limited budgets.

THE ARMY'S GOALS FOR THE 1987-1991 PERIOD

The Army feels that its first priority during the next five years is to maintain or improve the current state of readiness of its forces--that is, the ability to fight effectively on short notice. In descending priority, the Army would also like to improve its sustainability (the ability to fight a protracted conflict), to continue to modernize its equipment, and to maintain its current force structure while increasing the number of reserve soldiers. In response to a query from the Congressional Budget Office (CBO), the Army provided specific details on its goals for improvements in the four areas outlined above. Key Army goals in these areas include:

- o Continued increases in training time, especially for pilots;
- o Continued increases in stockpiled war reserves, especially ammunition;

- o Continued modernization of equipment, with the emphasis shifting from weapon systems, such as tanks and armored fighting vehicles, to systems for communications, intelligence, and target acquisition; and
- o Maintenance of 28 divisions (18 active and 10 reserve) with the current number of active-duty soldiers and 7 percent more reserve personnel. (An Army division consists of 10,000 to 17,000 troops and associated equipment).

In addition to these broad goals, the Army supplied many more detailed measures and milestones for each of the four broad categories.

The Army's goals are intended to prepare its forces to react quickly to a serious threat, to maintain intense combat for an extended period of time, to equip its troops with equipment capable of defeating the most sophisticated potential threat--the Soviet Union--and to increase the ability of the reserves to reinforce active troops. These capabilities would be important in defending Central Europe against a Soviet invasion which is a high priority mission, if not the highest, for the U.S. Army. Not all would agree that added Army capability is worth the cost, however, especially considering the seemingly low chance of such an invasion. Resolution of this debate is beyond the scope of this paper.

COSTS OF MEETING THE ARMY'S GOALS

The CBO used various methods to estimate the costs associated with meeting these Army goals. Within the investment portion of the Army's budget, the procurement account is by far the largest and so its projections received greater emphasis than the other two investment appropriations. Estimates for procurement funds were based in part on the needs of 10 major programs for which the Army supplied detailed modernization goals--specifically, fielding schedules for the 10 systems. Army plans were also available as a basis for estimating costs in most of the rest of the procurement account. ^{1/} The other, smaller investment expenses--for research and development and for military construction--were assumed to retain their recent levels of 6.5 percent and 2.1 percent, respectively, of the total Army budget.

1. In addition to the 10 programs for which the Army supplied fielding schedules, the Congress and CBO have detailed five-year procurement data on most of the Army's current programs. Indeed, CBO has detailed five-year budget data for programs that account for 98 percent of the Army's 1987 procurement budget.

Costs to operate the Army--called operating and support costs (O&S)--include those for military personnel (MILPER), for operation and maintenance (O&M), and for family housing. Military personnel costs through 1991 were provided to CBO by the Army and include the cost associated with increasing the number of both part-time reservists and those who actually work full-time in their reserve units.

The CBO used two methods to project the costs associated with the day-to-day operations of the Army that are included in the operation and maintenance appropriation. One method was based on published Army cost factors and the other on a historically derived fraction of the total value of the Army's capital stock, referred to as the ratio-to-force-value (RFV) approach. Broad-based methods were used because the specific goals supplied by the Army--such as increasing the total number of hours that Army aircraft fly per year--represent only a small part of the total O&M budget. The use of two methods to project O&M costs reflects the uncertainty in estimating the size of such an important but diverse account.

Finally, needs for family housing, like those for military construction and research and development, were based on a constant share of the total Army budget, equal to 1.9 percent in the case of family housing. Continued growth in this account is intended to offset the Army's current shortfall in these facilities. Thus, funds for family housing would increase over the five-year period, even in the absence of an increase in the number of active-duty personnel.

Combinations of these projection methods suggest that the Army would need significant real growth by 1991 to meet all its goals; specifically, it would need to receive between 5.8 and 6.6 percent average annual real growth from 1988 through 1991. Under these assumptions, the Army's budget, in fiscal year 1987 dollars, would grow from \$74.2 billion in 1987 to between \$93 billion and \$96 billion in 1991, with the range of estimates reflecting the difference between the two methods for estimating future O&M costs (see Summary Table 1).

There is, of course, uncertainty in these estimates because the goals supplied by the Army do not fully determine needs for all types of spending. The CBO assumes, based on historical relationships, that several categories of spending--accounting for 11 percent of the Army's 1987 budget--maintain their budget share. The Army could, of course, make different decisions. If, for example, the Army held those categories of spending constant in real terms through 1991 (and, therefore, allowed their share of the budget to decline), required growth would be lower by one and a half percentage points.

These projected budgets would be consistent with the Army's stated emphasis on maintaining or improving the current level of readiness--which is often associated with spending for operating and support. The present balance between funding for the Army's investment accounts and funding for operating and support functions would be maintained, ending a recent trend of placing a growing portion of Army funds into the investment accounts. Operating and support funds have decreased as a portion of the Army's total budget from 73 percent in 1980 to 66 percent in 1986. The CBO's projected budgets would hold the portion of the Army budget devoted to operation and support to about 65 percent.

One policy change discussed recently in the Congress could further increase Army budget needs. Specifically, the Congress has expressed concern over the Army's plan to cease procurement of the M1 tank, Bradley Fighting Vehicle, and Apache helicopter in the next two to four years. With

SUMMARY TABLE 1. BUDGET REQUIRED TO ATTAIN ARMY GOALS
(By fiscal year, in billions of fiscal
year 1987 dollars)

Account	Appropriated 1987	Projected	
		1988	1991
Operating and Support (O&S)			
Personnel	28.0	29.4	30.3
Operation and Maintenance	22.5	25.8-26.0	27.8-30.5
Family Housing	1.6	1.6	1.8
Subtotal, O&S	52.1	56.8-57.0	59.9-62.6
Investment			
Procurement	16.0	21.1	24.9
RDT&E ^a /	4.6	5.7	6.2-6.4
Military Construction	1.5	1.8	2.0
Subtotal, Investment	22.1	28.6	33.1-33.4
Total	74.2	85.4-85.6	93.0-96.0

SOURCE: Congressional Budget Office.

NOTE: Ranges reflect the two estimating techniques used to project these accounts. Numbers may not add to totals because of rounding.

a. RDT&E = research, development, testing, and evaluation.

no Army purchases, the producers could conceivably close the only production lines for these major land-based weapons. In order to avoid the potential loss of these lines, the Congress has raised the possibility of maintaining these three programs through at least 1991. Continued procurement of these expensive items would add significant costs to the Army's investment accounts in 1990 and 1991. In fact, maintaining these major weapons production lines through 1991 could add almost another percentage point to the average annual budget growth needed to meet the Army's goals.

THE IMPACT OF ZERO BUDGET GROWTH ON THE ARMY'S ABILITY TO MEET ITS GOALS

The Army's budgets during the years from 1980 through 1985 grew at rates significantly higher than 6 percent in real terms. Indeed, average annual real growth rates approached 10 percent during these years. That growth has stalled in recent years, however, with budgets in 1986 and 1987 declining, in real terms, by 6 percent and 1 percent, respectively, from preceding years.

Although it is not possible to predict the actual level of growth the Army's budget will experience during the next five years, it is useful to examine the effects that growth levels significantly lower than 6 percent might have on the Army's ability to achieve its goals. The CBO has examined the effects that zero real budget growth could have on the Army over the next five years. This examination is not meant to suggest that zero growth is the most appropriate level of growth for this period, or that it is the most likely. Nevertheless, it is the level used in CBO's baseline deficit estimates and has become more commonly acknowledged as a distinct possibility. Indeed, Undersecretary of the Army James R. Ambrose recently indicated that he feels that the Army's future holds budgets of "zero or less than zero" growth.

In the absence of real growth in its budget, the Army would be forced to choose among its goals, since it obviously could not afford them all. Using the assumption of zero real growth from 1987 through 1991, this report examines three approaches to allocate resources between the operating and support and the investment accounts.

Option I--Emphasize Operating and Support Funding

The first option would attempt to maintain the Army at a high state of readiness by emphasizing funding for personnel and operation and maintenance. Enough funding to support the Army's planned increase in both part-

time and full-time reserve personnel would be provided and O&M funding would be set at the higher level estimated using the RFV method. Family housing would continue to be funded at the 1987 level. The investment accounts would be reduced proportionally to offset the resultant growth in O&S funding.

The consequence of this strategy would be an Army with increasing numbers of reserve personnel and a continued emphasis on readiness, but with significantly less modern equipment. Such a force might be consistent with the assumption that the Army must always be prepared to fight in a major war on short notice.

An examination of the distribution of funds within the Army's budget demonstrates the far-reaching effects of this approach. The portion of the budget allotted to operating and support costs would rise dramatically, from about 70 percent in 1987 to 81 percent in 1991. The remainder of the budget, devoted to investment funding, would fall equally dramatically, from 30 percent in 1987 to 19 percent in 1991. If reductions in investment were shared proportionately among all three of the accounts, the procurement appropriation in 1991 would be funded (in 1987 dollars) at about 63 percent of its 1987 level.

Such a reduction would greatly affect the Army's modernization plans, especially for systems that the Army is just now starting to procure. For example, the Army would fall short of its goals by 12 tank battalions, 26 mechanized infantry battalions and armored cavalry squadrons, and 3 attack helicopter battalions (see Summary Table 2). Nevertheless, for these programs--all of which were started in the late 1970s or early 1980s--the Army could achieve 80 percent to 90 percent of its modernization goals. For those programs that are only now getting underway, such as the SINCGARS radio or MSE field telephone system, the impact would be much greater--with only 50 percent to 60 percent of the goal achievable.

In the area of sustainability, which includes stockpiling munitions for a protracted war, the Army would not be able to achieve its goal of filling 80 percent of its objective for munitions war reserve stocks by 1991. Indeed, it might need more than its annually purchased ammunition for peacetime training and so might make reductions to its current level of war reserve stockpiles (see Summary Table 2).

This approach would also produce what could be viewed as an unbalanced Army budget. By 1991, 81 percent of the budget would be devoted to operating and support funds. Although the Army might need to devote considerable funding to O&S in order to maintain the large amount of sophisti-

SUMMARY TABLE 2. IMPACT OF THREE OPTIONS ON THE ARMY'S
GOALS AS OF FISCAL YEAR 1991 a/

	Status as of 1987 <u>a/</u>	Goal	Option I (Operating and Support Emphasis)	Option II (Investment Emphasis)	Option III (Balanced Emphasis)
Force Structure (Personnel at Year End)					
Active	780,800	781,000	781,000	728,000	781,000
Reserve	785,500	812,100	812,100	732,100	785,500
Modernization (Number of Units Equipped)					
M1 tank battalions	66	89	77	80	79
Bradley fighting vehicle battalions and cavalry squadrons	60	102	76	81	79
AH-64 attack helicopter battalions	26	34	31	32	31
UH-60 helicopter companies	44	54	49	50	50
Multiple launch rocket system batteries	30	47	39	41	40
Patriot air defense batteries	52	93	68	73	71
M9-ACE battalions	1	25	13	17	15
SINCGARS radio division sets	1	15	7	9	9
MSE corps sets	1	5	3	4	4
Remotely piloted vehi- cle batteries	0	10	5	7	6
Readiness Funding (Percent Annual Growth in O&M, 1987 through 1991)					
	n.a.	5.4-7.9	6.0	3.8	3.9
Sustainability-- Munitions in War Reserve Stocks (Percent of Objective Met)					
	69	80	67	72	71

SOURCE: Congressional Budget Office, based on data contained in a letter from Lt. Gen. Carl G. Vuono, Deputy Chief of Staff for Operations and Plans, to Robert Hale, CBO, February 1986.

NOTE: n.a. = not applicable.

a. Based on the funded delivery period, not actual inventories in 1987 or 1991.

cated equipment purchased since 1980, the level of funding for O&S in fiscal year 1987 was 70 percent and the average over the past 10 years has been 69 percent. Even at the height of the Vietnam War, when modernization was curtailed to operate a large wartime force, only 77 percent of the Army budget was devoted to O&S. In light of historical evidence, devoting this high percentage of funds to operations might not leave enough funds to invest in the new hardware needed to maintain and upgrade the Army's capability.

Option II--Emphasize Investment

In contrast with the first approach, this option would minimize reductions in future investment accounts at the expense of operating and personnel funding. The emphasis on investment, rather than day-to-day operations, might be consistent with the assumption that the chance of a major war in the next few years is relatively small.

Specifically, under this approach, the O&M appropriation that provides for day-to-day training and maintenance would continue to receive significant annual increases to finance the operation and maintenance of new equipment. The O&M account, however, would grow at the lower rate predicted by the Army factors method, rather than at the rate forecast by the RFV used in Option I. All the other O&S accounts, including military personnel (MILPER), would be subject to proportional cuts to offset the growth in O&M and to maintain a constant budget of \$74.2 billion in 1987 dollars. As a result, by 1991 the MILPER appropriation would suffer a reduction of 7 percent relative to 1987 funding. Compensating for this funding reduction by a proportional reduction in active and reserve personnel would result in an active Army of 728,000 (53,000 below 1987 levels) and a reserve of 732,100 (about 53,400 below 1987 levels).

Investment would also be reduced 7 percent below 1987 levels. By devoting more funds to investment than did the first option, this approach would provide for more modernization and a higher level of sustainability, although the Army still could not meet its goals in these areas. For example, compared with Option I, this approach would, by 1991, supply modern equipment to three more tank battalions, five more mechanized infantry battalions, and one more attack helicopter unit. Furthermore, the Army would be 5 percentage points closer to its war reserve goal for munitions by 1991 than under Option I.

Finally, this alternative would produce a budget that would be more balanced by historical standards. The O&S costs would make up 72 percent